

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: July 28, 1997  
Date Received: July 22, 1997  
Project: Metro Grab, PO #M57890  
Date Samples Extracted: July 22, 1997  
Date Extracts Analyzed: July 23, 1997

**RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE  
FOR CHROMIUM, COPPER, NICKEL, AND ZINC  
USING METHOD 6010**

**Samples Processed Using Method 3005A**  
Results Reported as mg/L (ppm)

<u>Sample ID</u>	<u>Chromium</u>	<u>Copper</u>	<u>Nickel</u>	<u>Zinc</u>
M57890	0.75	0.76	0.93	0.10
Method Blank	<0.05	<0.05	<0.05	<0.05

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**QUALITY ASSURANCE RESULTS FOR  
 THE ANALYSIS OF WATER SAMPLES  
 FOR TOTAL METALS BY  
 INDUCTIVELY COUPLED PLASMA (ICP)  
 (METHOD 6010)**

Laboratory Code: 79608 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Chromium	mg/L (ppm)	0.75	0.81	8	0-20
Copper	mg/L (ppm)	0.76	0.74	3	0-20
Nickel	mg/L (ppm)	0.93	0.97	4	0-20
Zinc	mg/L (ppm)	0.10	0.12	18a	0-20

Laboratory Code: 79608 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS MSD		Acceptance Criteria	Relative Percent Difference
Chromium	mg/L (ppm)	5	0.75	88	89	80-120	1
Copper	mg/L (ppm)	5	0.76	86	89	80-120	3
Nickel	mg/L (ppm)	10	0.93	87	89	80-120	2
Zinc	mg/L (ppm)	5	0.10	87	90	80-120	3

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS MSD		Acceptance Criteria	Relative Percent Difference
Chromium	mg/L (ppm)	5	93	94	80-120	1
Copper	mg/L (ppm)	5	94	94	80-120	0
Nickel	mg/L (ppm)	10	94	96	80-120	2
Zinc	mg/L (ppm)	5	95	96	80-120	1

a - The analyte was detected at a level less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

James E. Bruya, Ph.D.  
Beth Albertson, M.S.  
Charlene Jensen, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.  
Melanie Kirol, B.S.  
July 28, 1997

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**INVOICE # 97ACU0728-1  
DUPLICATE COPY**

Accounts Payable  
Alaskan Copper Works  
628 South Hanford St.  
Seattle, WA 98134

RE: Project Metro Grab, PO #M57890: Results of testing requested by Gerry Thompson, Project Manager for material submitted on July 22, 1997.

1 water sample analyzed for  
Chromium, Copper, Nickel, and Zinc  
using Method 6010 @ \$65 per sample

\$ 65.00

Amount Due .....

\$ 65.00

FEDERAL TAX ID #(b) (6)

75



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**July 28, 1997**

**Gerry Thompson, Project Manager  
Alaskan Copper Works  
628 South Hanford St.  
Seattle, WA 98134**

**Dear Mr. Thompson:**

**Included are the results from the testing of material submitted on July 22, 1997  
from your Metro Grab, PO #M57890 project.**

**We appreciate this opportunity to be of service to you and hope you will call if you  
should have any questions.**

**Sincerely,**

**FRIEDMAN & BRUYA, INC.**



**Kurt Johnson  
Chemist**

**keh  
Enclosures  
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